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NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

TCS-1144-63-KH
25 February 1963

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MEMORANDUM FOR: Director, National Reconnaissance Office

THROUGH: Deputy Director (Research)

SUBJECT: Utility of Stereo Coverage as Opposed to Non-Stereo Coverage

1. In discussions with representatives of your staff, the question has occasionally arisen as to the value of stereoscopic coverage. As far as NPIC is concerned, there is no question that the use of stereo coverage greatly increases both the quality and quantity of readout from photography. For rapid readout and immediate identification of known signatures, monocular viewing is usually adequate. However, for extensive detail work and for accurate and complete analysis, stereo examination is necessary.

2. It is the experience of our photo interpreters that stereo coverage offers the following advantages over non-stereo coverage:

a. Image enhancement: The stereo viewing enhances the quality of the image as presented on the photography. Therefore, many installations and items can be more readily identified.

b. Edge definition: Stereo more clearly defines the image being viewed. Not only is edge definition enhanced but also radial displacement and distortion due to relief is overcome to a large degree.

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c. Depth perception: Perception of depth in stereo viewing is a definite asset in a detailed analysis. More positive identifications can be made in stereo coverage due to height and depth factors.

d. Provides better perspective of configuration: Often in photography there is a lack of tone and definite shadow, both of which are often good identification features. Stereo capability definitely compensates for such deficiencies, as well as provides better perspective of drainage, terrain and vegetation in relation to logical location of features.

e. Increases in useability due to double coverage: Oftentimes this double coverage factor overcomes a percentage loss in photo interpretation due to haze, clouds and poor quality of single image viewing.

3. Numerous examples of how stereo examination has enhanced NPIC reporting can be cited. Among some of these examples are the following:

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4. It is true that a significant percentage of KH film now being received is never viewed in stereo, due to the absence of areas which require analysis. However, it is practically impossible to state categorically in advance of a mission that stereo is not required over certain areas, because any target, new or old, may require stereo for identification and/or analysis on a given mission. Furthermore, at some future date it is possible that stereo viewers being developed may make it practical to conduct the entire scan operation in stereo.

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[redacted]

ARTHUR C. LUNDAHL
Director

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